



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/590,408

06/29/2007

Raimund Sicking

20496-531

7012

42532 7590 06/02/2009

PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

EXAMINER

WALCK, BRIAN D

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

06/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/590,408 | Applicant(s) SICKING ET AL. | |
| | Examiner Brian Walck | Art Unit 1793 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 4-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 1-3 and 12-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/23/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-3 and 12-14, drawn to a heat resistant aluminum alloy and aluminum strip or aluminum sheet for heat exchangers.

Group II, claim(s) 4-11, drawn to a method for producing an aluminum strip or aluminum sheet for heat exchangers.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the groups lack a common special technical feature. The express "special technical features" is defined as meaning those technical features that define a contribution which each of the inventions, considered as a whole, makes over the prior art." (Rule 13.2).

Unity exists only when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding claimed special technical features. In this case, the technical feature shared by each invention is the aluminum alloy composition of instant claim 1.

The question of unity of invention has been reconsidered retroactively by the examiner in view of the search performed; a review of JP 02129333 reveals an aluminum alloy falling within the scope of instant claim 1 (see the 102 rejection below for more details). This makes clear that the inventions of the groups I-II lack the same or corresponding special technical feature because the cited reference(s) appear to demonstrate that the claimed technical feature does not define a contribution which each of the inventions, considered as a whole, makes over the prior art. Accordingly, the prior art of the record supports restriction of the claimed subject matter in to the groups as mentioned immediately above.

2. During a telephone conversation with Deborah Vernon on 5/28/2009 a provisional election was made with traverse to prosecute the invention of group I, claims 1-3 and 12-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 4-11 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

4. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise

Art Unit: 1793

require all the limitations of the allowable product claim will be considered for rejoinder.

All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Specification

5. The disclosure is objected to because of the following informalities: the disclosure of the application recites the term "aluminium" in the British standard spelling, instead of the United States standard spelling of "aluminum."

Appropriate correction is required.

Claim Objections

6. Claims 1-3 and 12-14 are objected to because of the following informalities:
Claims 1-3 and 12-14 recites the term "aluminium" in the British standard spelling, instead of the United States standard spelling of "aluminum." Appropriate correction is required.

Additionally, claim 12 is objected to for being dependent on withdrawn claim 4.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 02129333 to Kudo et al (hereinafter referred to as Kudo; cited by applicant in IDS; full Japanese copy included in this office action).

Regarding claim 1, Kudo discloses an alloy for heat exchangers comprising the following composition (Kudo, Table 1, example 6), which lies within the instantly claimed composition:

| Element | Claimed wt% | Kudo wt% | Lies within? |
|---------|-------------|----------|--------------|
| Si | 0.3-1 | 0.36 | Yes |
| Fe | 0-5 | ~0 | Yes |
| Cu | 0.3-0.7 | 0.57 | Yes |

Art Unit: 1793

| | | | |
|----|----------|---------|-----|
| Mn | 1.1-1.8 | 1.15 | Yes |
| Mg | 0.15-0.6 | 0.39 | Yes |
| Cr | 0.01-0.3 | 0.02 | Yes |
| Zn | 0-0.10 | ~0 | Yes |
| Ti | 0-0.3 | 0.05 | Yes |
| Al | balance | balance | Yes |

Kudo anticipates instant claim 1 because Kudo discloses an alloy falling within the claimed composition range of instant claim 1.

Regarding claims 2-3, example 6 of Kudo lies within the instantly claimed composition ranges of instant claims 2-3.

9. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 04202735 to Dokou (hereinafter referred to as Dokou; cited by applicant in IDS; full Japanese copy included in this office action).

Regarding claim 1, Dokou discloses an alloy for heat exchangers comprising the following composition (Dokou, Table 1, example C), which lies within the instantly claimed composition:

| Element | Claimed wt% | Dokou wt% | Lies within? |
|---------|-------------|-----------|--------------|
| Si | 0.3-1 | 0.54 | Yes |
| Fe | 0-5 | 0.25 | Yes |
| Cu | 0.3-0.7 | 0.48 | Yes |
| Mn | 1.1-1.8 | 1.12 | Yes |

Art Unit: 1793

| | | | |
|----|----------|---------|-----|
| Mg | 0.15-0.6 | 0.35 | Yes |
| Cr | 0.01-0.3 | 0.13 | Yes |
| Zn | 0-0.10 | ~0 | Yes |
| Ti | 0-0.3 | 0.01 | Yes |
| Al | balance | balance | Yes |

Dokou anticipates instant claim 1 because Dokou discloses an alloy falling within the claimed composition range of instant claim 1.

Regarding claims 2-3, example D of Dokou (Dokou, Table 1, example D) lies within the instantly claimed composition ranges of instant claims 2-3.

Claim Rejections - 35 USC § 102/103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1793

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 12-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 02129333 to Kudo et al (hereinafter referred to as Kudo; cited by applicant in IDS; full Japanese copy included in this office action).

Regarding claims 12-13, product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113 [R-1]. The only structural limitations of instant claims 12-13 appear to be that the alloy is in

Art Unit: 1793

the form of a sheet or strip, and Kudo discloses that the alloy is in the form of a sheet (Kudo, abstract).

14. Claims 12-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 04202735 to Dokou (hereinafter referred to as Dokou; cited by applicant in IDS; full Japanese copy included in this office action).

Regarding claims 12-13, product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113 [R-1]. The only structural limitations of instant claims 12-13 appear to be that the alloy is in the form of a sheet or strip, and Dokou discloses that the alloy is in the form of a sheet (Dokou, abstract).

Claim Rejections - 35 USC § 103

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 02129333 to Kudo et al (hereinafter referred to as Kudo; cited by applicant in IDS; full Japanese copy included in this office action).

Regarding claim 14, Kudo discloses an aluminum alloy sheet for heat exchangers as described above. Kudo does not explicitly disclose the dimensions of the sheet. However, where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device (see MPEP 2144.04 IV A). The sheet of Kudo would not perform differently from the instantly claimed sheet, therefore the instantly claimed sheet is not patentably distinct from the sheet of Kudo.

16. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04202735 to Dokou (hereinafter referred to as Dokou; cited by applicant in IDS; full Japanese copy included in this office action).

Regarding claim 14, Dokou discloses an aluminum alloy sheet for heat exchangers as described above. Dokou does not explicitly disclose the dimensions of the sheet. However, where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device (see MPEP 2144.04 IV A). The sheet of Dokou would not perform differently from the instantly claimed sheet, therefore the instantly claimed sheet is not patentably distinct from the sheet of Dokou.

17. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0718072 A1 to Miller (cited by applicant in IDS).

Art Unit: 1793

Regarding claim 1, Miller discloses an alloy for heat exchangers comprising the following composition (Miller, abstract), which overlaps the instantly claimed composition:

| Element | Claimed wt% | Miller wt% | Overlap |
|---------|-------------|------------|----------|
| Si | 0.3-1 | >0.15 | 0.3-1 |
| Fe | 0-5 | 0-0.8 | 0-0.8 |
| Cu | 0.3-0.7 | 0.2-2.0 | 0.3-0.7 |
| Mn | 1.1-1.8 | 0.7-1.5 | 1.1-1.5 |
| Mg | 0.15-0.6 | 0.1-0.6 | 0.15-0.6 |
| Cr | 0.01-0.3 | 0-0.35 | 0.01-0.3 |
| Zn | 0-0.10 | ~0 | ~0 |
| Ti | 0-0.3 | 0-0.15 | 0-0.15 |
| Al | balance | balance | balance |

In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists (see MPEP 2144.05 [R-5]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected values for the composition of each element that lie within the instantly claimed ranges because Miller discloses the same utility throughout the disclosed ranges.

Regarding claims 2-3, the alloy of Miller overlaps the instantly claimed composition ranges of instant claims 2-3.

Regarding claims 12-13, product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113 [R-1]. The only structural limitations of instant claims 12-13 appear to be that the alloy is in the form of a sheet or strip, and Miller discloses that the alloy is in the form of a sheet (Miller, abstract).

Regarding claim 14, Miller discloses an aluminum alloy sheet for heat exchangers as described above. Miller does not explicitly disclose the dimensions of the sheet. However, where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device (see MPEP 2144.04 IV A). The sheet of Dokou would not perform differently from the instantly claimed sheet, therefore the instantly claimed sheet is not patentably distinct from the sheet of Miller.

18. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,391,129 B1 to Hurd et al (hereinafter referred to as Hurd; cited by applicant in IDS).

Art Unit: 1793

Regarding claim 1, Hurd discloses an alloy for heat exchangers comprising the following composition (Hurd, abstract), which overlaps the instantly claimed composition:

| Element | Claimed wt% | Hurd wt% | Overlap |
|---------|-------------|----------|----------|
| Si | 0.3-1 | 0.15-1.0 | 0.3-1 |
| Fe | 0-5 | 0-0.8 | 0-0.8 |
| Cu | 0.3-0.7 | 0.2-2.0 | 0.3-0.7 |
| Mn | 1.1-1.8 | 1.0-1.4 | 1.1-1.4 |
| Mg | 0.15-0.6 | 0.2-0.5 | 0.15-0.5 |
| Cr | 0.01-0.3 | 0-0.35 | 0.01-0.3 |
| Zn | 0-0.10 | 0-0.25 | 0-0.25 |
| Ti | 0-0.3 | 0-0.15 | 0-0.15 |
| Al | balance | balance | balance |

In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists (see MPEP 2144.05 [R-5]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected values for the composition of each element that lie within the instantly claimed ranges because Hurd discloses the same utility throughout the disclosed ranges.

Regarding claims 2-3, the alloy of Hurd overlaps the instantly claimed composition ranges of instant claims 2-3.

Regarding claims 12-13, product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113 [R-1]. The only structural limitations of instant claims 12-13 appear to be that the alloy is in the form of a sheet or strip, and Hurd discloses that the alloy is in the form of a sheet (Hurd, abstract).

Regarding claim 14, Hurd discloses an aluminum alloy sheet for heat exchangers as described above. Hurd does not explicitly disclose the dimensions of the sheet. However, where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device (see MPEP 2144.04 IV A). The sheet of Hurd would not perform differently from the instantly claimed sheet, therefore the instantly claimed sheet is not patentably distinct from the sheet of Hurd.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. EP 1059362, JP 07286250, and JP 04263033 (all cited by

Art Unit: 1793

applicant in IDS) all disclose alloys overlapping the composition and/or falling within the scope of the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Walck whose telephone number is (571)270-5905. The examiner can normally be reached on Monday-Friday 9 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

/Brian Walck/
Examiner, Art Unit 1793